

WHAT IS CLAIMED IS:

1. Apparatus for accessing content contained on a storage medium, the content comprising plural frames, the frames organized into plural scenes, the scenes organized into plural programs, the apparatus comprising:

4 a driver module configured to access the content and having a driver  
5 output to produce an information signal representing the accessed content;  
6 a decoder module operatively coupled to the driver module to receive  
7 the information signal;  
8 a user input module configured to receive user input; and  
9 a system control module,  
10 wherein the system control module controls the driver and decoder  
11 modules to generate program identification information for each of the programs and  
12 to produce a first display signal representing the program identification information,  
13 wherein the system control module, in response to receiving a user-  
14 specified program selection from the user input module, controls the driver module to  
15 access a representative frame for each scene comprising the program corresponding to  
16 the user-specified program selection and controls the decoder module to produce a  
17 second display signal representing the representative frames.

1 2. The apparatus of claim 1 wherein the content is visual  
2 information, audio information, or a combination of both.

1 3. The apparatus of claim 1 wherein the representative frames are  
2 comprise first frame of each scene comprising the program corresponding to the user-  
3 specified program selection.

1 4. The apparatus of claim 1 further including a data store coupled  
2 to receive location data present in the information signal, the location data indicating  
3 the location of one or more of the scenes contained on the storage medium, wherein  
4 the driver module accesses a representative frame based on the location data.

1 5. The apparatus of claim 1 further including a display device  
2 coupled to receive the display signals.

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1                   6.     The apparatus of claim 1 wherein the system control module, in  
2 response to receiving a user-specified one of the representative frames, controls the  
3 driver module to access one or more frames of the scene associated with the user-  
4 specified one of the representative frames and controls the decoder module to produce  
5 a third display signal representing the one or more frames.

1                   7.     The apparatus of claim 6 wherein the one or more frames  
2 represented by the third display signal are fullscreen.

1                   8.     The apparatus of claim 6 wherein the system control module, in  
2 response to receiving a user command from the user input module, controls the  
3 decoder module to change the scaling of the one or more frames represented by the  
4 third signal.

1                   9.     The apparatus of claim 1 wherein the program identification  
2 information comprises numerical values, each numerical value associated with one of  
3 the programs.

1                   10.    The apparatus of claim 9 wherein the first display signal  
2 represents the numerical values as plural ranges of numerical values.

1                   11.    The apparatus of claim 10 wherein the system control module,  
2 in response to receiving information from the user input module identifying a selected  
3 one of the ranges of numerical values, controls the decoder module to produce a third  
4 display signal representing a frame from a scene in each of the programs associated  
5 with the numerical values in the selected one of the ranges.

1                   12.    The apparatus of claim 1 wherein the second display signal  
2 includes frame identification information to identify the representative frames.

1                   13.    The apparatus of claim 1 wherein the frames are formatted in  
2 accordance with an MPEG standard, wherein each of the representative frames is an I-  
3 frame.

1                   14.    The apparatus of claim 1 wherein the second display signal  
2 further represents on-screen display data comprising a row of tabs, each tab

3 comprising an id symbol identifying one of the programs, the representative frames  
4 being arranged in row and column fashion, the tab that corresponds to the user-  
5 selected program being visually distinct from the remaining tabs.

1 15. The apparatus of claim 14 wherein the id symbols are  
2 numerical values.

1 16. The apparatus of claim 1 wherein the second display signal  
2 further represents on-screen display data comprising a row of tabs, each tab  
3 comprising an id symbol identifying one of the programs, the representative frames  
4 being arranged in overlapping fashion, the tab that corresponds to the user-selected  
5 program being visually distinct from the remaining tabs.

1 17. The apparatus of claim 1 further comprising a content input  
2 component to record audio-visual information, the content input component  
3 producing a second information signal representing the audio-visual information, the  
4 driver module further configured to receive the second information signal and store  
5 the audio-visual information on the storage medium, the audio-visual information  
6 comprising video information, audio information, or both.

1 18. The apparatus of claim 17 wherein the audio-visual information  
2 is organized into recorded frames, the recorded frames organized into recorded  
3 scenes, the recorded scenes organized into recorded programs.

1 19. Apparatus for recording and accessing content on a storage  
2 medium, the content comprising plural frames, the apparatus comprising:  
3 a content input component to produce a first information signal  
4 representing frames of audio-visual information to be recorded;  
5 a driver module coupled to the content input component to store the  
6 first information signal on the storage medium, the driver module including a portion  
7 configured to access the content on the storage medium to produce a second  
8 information signal;  
9 a decoder module operatively coupled to the driver module to receive  
10 the second information signal;  
11 a user input module configured to receive user input; and  
12 a system control module,

13                    wherein the system control module, in response to receiving user-input  
14 from the user input module, controls the driver module to define a stream, the stream  
15 comprising a set of frames, whereby the frames are organized as plural streams as  
16 defined by a user,

17                    wherein the system control module, in response to receiving a first  
18 user-provided command from the user input module, controls the driver and decoder  
19 modules to produce a first display signal representing a representative frame from  
20 each of the streams,

21                    wherein the system control module, in response to receiving a user-  
22 selected one of the representative frames from the user input module, controls the  
23 driver module to access the stream associated with the user-selected one of the  
24 representative frames and controls the decoder module to produce a second display  
25 signal representing one or more of the frames of the stream corresponding to the user-  
26 selected one of the representative frames.

1                    20.    The apparatus of claim 19 wherein the system control module,  
2 in response to receiving a second user-provided command from the user input  
3 module, controls the driver module identify a frame as a representative frame.

1                    21.    The apparatus of claim 20 wherein the representative frame is  
2 identified by measuring the time from the beginning of the stream to the time of  
3 receiving the second user-provided command.

1                    22.    The apparatus of claim 19 further including a data store  
2 coupled to receive location data, the location data indicating the location of each  
3 stream on the storage medium, wherein the driver module accesses a representative  
4 frame based on the location data.

1                    23.    The apparatus of claim 22 wherein the system control module  
2 controls the driver module to store the location data on the storage medium.

1                    24.    The apparatus of claim 19 further including a display device  
2 coupled to receive the display signals.

1                    25.    The apparatus of claim 19 wherein the first display signal  
2 further represents date information.

1                   26.     The apparatus of claim 19 wherein the first display signal  
2 further represents user-provided information.

1                   27.     The apparatus of claim 19 wherein the representative frames  
2 includes time-of-day information.

1                   28.     The apparatus of claim 19 wherein the second display signal  
2 further represents on-screen display data comprising the representative frames  
3 arranged in row and column fashion.

1                   29.     A method of accessing content contained on a storage medium,  
2 the content being audio information, visual information, or audio-visual information,  
3 the content being organized into plural programs, each program comprising plural  
4 scenes, each scene comprising plural frames, the method comprising:  
5                   producing a first display signal representing first information  
6 comprising a representative frame from a scene from each program; and  
7                   receiving a program selection and in response thereto, producing a  
8 second display signal representing second information comprising one or more of the  
9 scenes associated with the selected program.

1                   30.     The method of claim 29 wherein the step of receiving a  
2 program selection includes receiving a user-specified one of the representative  
3 frames, and the step of producing a second display signal includes accessing one or  
4 more frames of the scene associated with the user-specified one of the representative  
5 frames.

1                   31.     The method of claim 29 wherein the first information further  
2 comprises on-screen display data representing a row of tabs, each tab having an id  
3 symbol identifying one of the programs, the representative frames being arranged in  
4 row and column fashion, the tab that corresponds to the user-selected program being  
5 visually distinct from the remaining tabs.

1                   32.     A method for recording and accessing content on a storage  
2 medium, the content comprising plural frames, the method comprising:

3 receiving an input signal representing frames of audio-visual  
4 information to be recorded;  
5 storing said frames on said storage medium as one or more streams;  
6 producing a first display signal representing first information  
7 comprising plural representative frames, each representative frame being a frame  
8 from one of the streams;  
9 receiving a user-selected one of the representative frames; and  
10 producing a second display signal representing second information  
11 comprising one or more of the frames from the stream associated with the user-  
12 selected one of the representative frames.

1 33. Apparatus for accessing content contained on a storage  
2 medium, the storage medium comprising plural frames, the frames organized into  
3 plural scenes, the scenes organized into plural programs, the apparatus comprising:  
4 first means for identifying the programs contained on the storage  
5 device;  
6 second means, operatively coupled to the first means, for producing a  
7 first signal containing information relating to one or more of the programs; and  
8 third means for receiving information relating to a selected program,  
9 the second means operatively coupled to the third means to produce a  
10 second signal containing information relating to one or more of the scenes associated  
11 with the selected program.

1 34. Apparatus for accessing content contained on a storage  
2 medium, the storage medium comprising plural frames, the frames organized into  
3 plural scenes, the scenes organized into plural programs, the apparatus comprising:  
4 a first circuit configured to identify the programs contained on the  
5 storage device;  
6 a second circuit, operatively coupled to the first circuit, configured to  
7 produce a first signal containing information relating to one or more of the programs;  
8 and  
9 a third circuit configured to receive information relating to a selected  
10 program,

- 11                   the second circuit operatively coupled to the third circuit to produce a  
12 second signal containing information relating to one or more of the scenes associated  
13 with the selected program.

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